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EXAMINER

DWIVEDI, MAHESH H

ART UNIT	PAPER NUMBER
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2168

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,956

Applicant(s)

REVEL, DANIEL

Examiner

Mahesh H. Dwivedi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-7, 9-14, 18-23 and 35-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9-14, 18-23 and 35-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 07/30/2003 has been received, entered into the record, and considered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Remarks

2. Receipt of Applicant's amendment filed on 07/19/2006 is acknowledged. The amendment includes amending claims 1-2, 7, 9, 14, 18, and 35, the cancellation of claims 4, 8, and 27-28, and the addition of claims 36-37.

Claim Rejections - 35 USC § 112

3. The rejection raised in the office action mailed on 04/17/2006 has been overcome by the applicant's amendment received on 07/19/06.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 6 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 6 appears to represent nonfunctional descriptive material. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart

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functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claim 6 is further rejected under 35 U.S.C 101 because the claimed invention is directed to the non-statutory subject area of electro-magnetic signals, carrier waves. Claim 6 recites the limitation "**computer readable media**". The examiner interprets "**computer readable media**" as a machine defined by the characteristics in paragraph

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8 of the applicant's specification. According to paragraph 8 of the applicant's specification, a "**computer readable media**" consists of "**carrier waves** on which the software is transmitted". Claim 6 recites nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture,

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or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, *The Law of Patents for Useful Inventions* 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a

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form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 1, 5-7, 11-12, 14, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tang et al.** (U.S. PG PUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713).

8. Regarding claim 1, **Teng** teaches a method comprising:

A) receiving at a server a request for information from a requestor (Paragraphs 27 and 30, Figures 2-3);

B) wherein the request is in compressed form (Paragraphs 27 and 30-31, Figures 2-3);

C) decompressing the received request for information at the server (Paragraphs 24 and 27, Figures 2-3);

D) compressing the requested information at a server (Paragraphs 36-37).

The examiner notes that **Teng** teaches “**receiving at a server a request for information from a requestor**” as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30) and “Upon receiving a request from the client, the proxy looks up code space indexed according to the server” (Paragraph 31). The examiner further notes that **Teng** teaches “**wherein the request is in compressed form**” as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30). The examiner further notes that **Teng** teaches “**decompressing the received request for information at the server**” as “A code space provides a

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translation dictionary to translate a compressed token to an uncompressed text phase" (Paragraph 24) and "a proxy receives the compressed request from the client decompresses the compressed data, and communicates the decompressed data to an appropriate destination server" (Paragraph 30). The examiner further notes that **Teng** teaches "**compressing the requested information at a server**" as "The proxy compresses the document from the server" (Paragraph 36) and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37).

Teng does not explicitly teach:

E) caching a compression dictionary at a server;

C & D) using the cached compression dictionary;

F) sending the compressed information to the requestor with an identifier of the compression dictionary.

Unger, however, teaches "**caching a compression dictionary at a server**" as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55), "**using the cached compression dictionary**" as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55), and "**sending the compressed information to the requestor with an identifier of the compression dictionary**" as "when files compressed by the above methods are transmitted in a distributed system the unique

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identifications of the required dictionaries that were employed in the compression can be transmitted" (Column 15, lines 38-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Teng's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 5, **Teng** further teaches a method comprising:

A) creating a compression dictionary (Paragraph 35).

The examiner further notes that **Teng** teaches "**creating a compression dictionary**" as "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier" (Paragraph 35).

Regarding claim 6, **Teng** further teaches a method comprising:

A) A computer readable media with instructions thereon for performing the method of claim 1 (Paragraph 18).

Regarding claim 7, **Teng** teaches a method comprising:

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- A) compressing a request for information at the client using the cached compression dictionary (Paragraphs 27 and 30-31, Figures 2-3);
- B) sending the compressed request for information from the client to a server (Paragraphs 27 and 30-31, Figures 2-3);
- C) receiving at the client the requested information from the server, wherein the information received is compressed (Paragraphs 24, and 36-37); and
- D) decompressing the requested information at the client using the cached compression dictionary (Paragraphs 36-37).

The examiner notes that Teng teaches “**compressing a request for information at the client using the cached compression dictionary**” as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30) and “Upon receiving a request from the client, the proxy looks up code space indexed according to the server” (Paragraph 31). The examiner further notes that Teng teaches “**sending the compressed request for information from the client to a server**” as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30). The examiner further notes that Teng teaches “**receiving at the client the requested information from the server, wherein the information received is compressed**” as “A code space provides a translation dictionary to translate a compressed token to an uncompressed text phase” (Paragraph 24), “The proxy compresses the document from

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the server using code space in step 380" (Paragraph 30), and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37). The examiner further notes that **Teng** teaches "**decompressing the requested information at the client using the cached compression dictionary**" as "The proxy compresses the document from the server" (Paragraph 36) and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37).

Teng does not explicitly teach:

E) caching a compression dictionary at a client.

Unger, however, teaches "**caching a compression dictionary at a client**" as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Teng's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 11, **Teng** further teaches a method comprising:

A) obtaining a compression dictionary (Paragraph 35).

The examiner further notes that **Teng** teaches “**obtaining a compression dictionary**” as “If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier” (Paragraph 35).

Regarding claim 12, **Teng** does not explicitly teach a method comprising:

- A) wherein the information received comprises a compression dictionary identifier;
- B) using the compression dictionary identifier included with the information received to determine if the proper compression dictionary is cached; and
- C) obtaining the proper compression dictionary if the proper compression dictionary is not in cache.

Unger, however, teaches “**wherein the information received comprises a compression dictionary identifier**” as “when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted” (Column 15, lines 38-41), “**using the compression dictionary identifier included with the information received to determine if the proper compression dictionary is cache**” as “A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one supplemental dictionary including the parsed words that are not present in the predetermined dictionary” (Column 2, lines 44-48), and “**obtaining the proper compression dictionary if the proper compression dictionary is not in cache**” as ““A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one

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supplemental dictionary including the parsed words that are not present in the predetermined dictionary" (Column 2, lines 44-48)".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Teng's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 14, **Teng** further teaches a method comprising:

A) wherein the compression dictionary is retrieved from a network location different from the server and the client (Paragraph 35).

Regarding claim 35, **Teng** teaches a method comprising:

- A) creating a compression dictionary tailored for selected information (Paragraph 35);
- B) receiving a request for at least a portion of the selected information from a requestor (Paragraphs 27 and 30, Figures 2-3);
- C) wherein the request is in compressed form (Paragraphs 27 and 30-31, Figures 2-3);
- D) decompressing the received request using the compression dictionary (Paragraphs 24 and 27, Figures 2-3);
- E) customizing the information for the requestor (Paragraphs 36-38);

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F) dynamically compressing the customized requested information using the compression dictionary (Paragraphs 36-38).

The examiner notes that **Teng** teaches **“creating a compression dictionary tailored for selected information”** as “If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier” (Paragraph 35). The examiner further notes that **Teng** teaches **“receiving a request for at least a portion of the selected information from a requestor”** as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30) and “Upon receiving a request from the client, the proxy looks up code space indexed according to the server” (Paragraph 31). The examiner further notes that **Teng** teaches **“wherein the request is in compressed form”** as “In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server” (Paragraph 30). The examiner further notes that **Teng** teaches **“decompressing the received request using the compression dictionary”** as “A code space provides a translation dictionary to translate a compressed token to an uncompressed text phase” (Paragraph 24) and “a proxy receives the compressed request from the client decompresses the compressed data, and communicates the decompressed data to an appropriate destination server” (Paragraph 30). The examiner further notes that **Teng** teaches **“dynamically compressing the customized requested information using the compression**

dictionary” as “The proxy compresses the document from the server” (Paragraph 36) and “In a step 385, the proxy communicates the compressed response to the client” (Paragraph 37).

Teng does not explicitly teach:

G) sending the compressed information to the requestor with an identifier of the compression dictionary (Paragraph 44, Figures 5-6).

Unger, however, teaches “**sending the compressed information to the requestor with an identifier of the compression dictionary**” as “when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted” (Column 15, lines 38-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger’s** would have allowed **Teng’s** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 36, **Teng** further teaches a method comprising:

A) publishing the compression dictionary to a network resource different from the server and the requestor (Paragraph 35).

9. Claims 2-3 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Teng et al.** (U.S. PG PUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 1, 5-7, 11-12, 14, and 35-36 above, and further in view of **Jakopac et al.** (U.S. PG PUB 2002/0029229).

10. Regarding claims 2 and 9, **Teng** and **Unger** do not explicitly teach a method comprising:

A) wherein the compressed information is decompressed directly to an object model document.

Jakopac, however, teaches “**wherein the compressed information is decompressed directly to an object model document**” as “the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files” (Paragraph 70) and “An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes” (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac’s** would have allowed **Teng’s** and **Unger’s** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Regarding claims 3 and 10, **Teng** and **Unger** do not explicitly teach a method comprising:

A) wherein the object model comprises Document Object Model (DOM).

Jakopac, however, teaches “**wherein the object model comprises Document Object Model (DOM)**” as “the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files” (Paragraph 70) and “An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes” (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac’s** would have allowed **Teng’s** and **Unger’s** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

11. Claims 13, 18-19, 22-23, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Teng et al.** (U.S. PG PUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 1, 5-7, 11-12, 14, and 35-36 above, and further in view of **Girardot et al.** (U.S. PG PUB 2003/0023628).

12. Regarding claim 13, **Teng** and **Unger** do not explicitly teach a method comprising:

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A) wherein calculating a compression dictionary identifier may include determining the identifier using a derived hash value for the dictionary.

Girardot, however, teaches “**wherein calculating a compression dictionary identifier may include determining the identifier using a derived hash value for the dictionary**” as “For example, to convert strings into tokens quickly, strings must be found quickly in a table. For this, it is better to use a hash table where the keys are the strings and the values are the corresponding tokens” (Paragraph 121).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Teng's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 18, **Teng** teaches a method comprising:

- A) creating a compression dictionary (Paragraph 35);
- B) retrieving the compression dictionary from the network (Paragraph 32); and
- C) compressing and decompressing messages received or sent according to the compression dictionary (Paragraphs 33-36).

The examiner notes that **Teng** teaches “**creating a compression dictionary**” as “If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier” (Paragraph 35). The examiner

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further notes that **Teng** teaches **“retrieving the compression dictionary from the network”** as “If the code space is not available, the server responds to the client with a request for the code space. The client can reply with the requested data” (Paragraph 32). The examiner further notes that **Teng** teaches **“compressing and decompressing messages received or sent according to the compression dictionary”** as “The proxy compresses the document from the server” (Paragraph 36) and “the proxy decompresses the document” (Paragraph 33).

Teng does not explicitly teach:

- D) publishing the compression dictionary on a network resource, wherein the compression dictionary is available upon request across the network; and
- E) caching the compression dictionary; and
- F) wherein the messages include markup tags.

Unger, however, teaches **“publishing the compression dictionary on a network resource, wherein the compression dictionary is available upon request across the network”** as “when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted” (Column 15, lines 38-41), **“caching a compression dictionary”** as “If the receiving computer does not already have copies of those dictionaries either cached” (Column 15, lines 41-42) and “there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries” (Column 15, lines 54-55), and **“wherein the messages include markup tags”** as

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"HTML files include a plurality of tags" (Column 4, lines 11-12) and "The tags used in HTML allow a user to identify many different types of text" (Column 4, lines 26-27).

The examiner notes that a **"distributed system"** (Column 15, line 39) is analogous to a presenting information on a publicly accessible network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Teng's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Teng and **Unger** do not explicitly teach:

G) wherein the markup tags are compressed and decompressed.

Girardot, however, teaches **"wherein the markup tags are compressed and decompressed"** as the system comprises a client which generates XML-RPC requests in a compression format which encodes tags, attributes and attribute value tokens rather than strings and transmits the request to a server" (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Teng's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online

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approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 19, **Teng** and **Unger** do not explicitly teach a method comprising:

A) wherein the compression dictionary comprises compressed representations of Extensible Markup Language (XML) tags.

Girardot, however, teaches “**wherein the compression dictionary comprises compressed representations of Extensible Markup Language (XML) tags**” as “The tag code space represents specific tag names. Each tag token is a single-byte...between the code pages” (Paragraph 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot’s** would have allowed **Teng’s** and **Unger’s** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 22, **Teng** does not explicitly teach a method comprising:

- A) creating a list of one or more files;
- B) extracting portions of the files from the list of one or more files;

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C) creating a compression dictionary including portions extracted from the one or more files.

Unger, however, teaches “**creating a list of one or more files**” as “The method includes steps of parsing words from text in an input file and comparing parsed words to a predetermined dictionary” (Column 2, lines 40-42), “**extracting portions of the files from the list of one or more files**” as “The method includes steps of parsing words from text in an input file and comparing parsed words to a predetermined dictionary” (Column 2, lines 40-42) and “there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries” (Column 1 5, lines 54-55), and “**creating a compression dictionary including portions extracted from the one or more files**” as “A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one supplemental dictionary including the parsed words that are not present in the predetermined dictionary” (Column 2, lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Teng's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 23, **Teng** further teaches a method comprising:

A) wherein the network resource comprises a web service interface (Paragraph 20).

Regarding claim 37, **Teng** does not explicitly teach a method comprising:

A) wherein the markup tags comprise Extensible Markup Language (XML) tags.

Unger, however, teaches “**wherein the markup tags comprise Extensible Markup Language (XML) tags**” as “The methods used to determine the scope of hypertext material, such as but not limited to tagged HTML, SGML, or XML files” (Column 5, lines 1-3)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger’s** would have allowed **Teng’s** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

13. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Teng et al.** (U.S. PG PUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 13, 18-19, 22-23, and 37 above, and further in view of **Girardot et al.** (U.S. PG PUB 2003/0023628) as applied to claims 13, 18-19, 22-23, and 37, and further in view of **Jakopac et al.** (U.S. PG PUB 2002/0029229).

14. Regarding claim 20, **Teng, Unger, and Girardot** do not explicitly teach a method comprising:

A) wherein the compressing and decompressing messages comprises compressing and decompressing messages directly to and from an object model document.

Jakopac, however, teaches “**wherein the compressing and decompressing messages comprises compressing and decompressing messages directly to and from an object model document**” as “the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files” (Paragraph 70) and “An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes” (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac’s** would have allowed **Teng’, Unger’s, and Giradot’s** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Regarding claim 21, **Teng, Unger, and Girardot** do not explicitly teach a method comprising:

A) wherein the object model comprises Document Object Model (DOM).

Jakopac, however, teaches “**wherein the object model comprises Document Object Model (DOM)**” as “the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files” (Paragraph 70) and “An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes” (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac’s** would have allowed **Teng’, Unger’s, and Giradot’s** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Response to Arguments

15. Applicant's arguments with respect to claims 1-3, 5-7, 9-14, 18-23, and 35-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,883,137 issued to **Girardat et al.** on 19 April 2005. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g., methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,847,315 issued to **Castelli et al.** on 25 January 2005. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g. methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,434,561 issued to **Dürst et al.** on 13 August 2002. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g., methods to use cached compression dictionaries for data compression and transmission).

U.S. PGPUB 2003/0031246 issued to **Heath** on 21 March 2006. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g. methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,088,699 issued to **Gampper et al.** on 11 July 2000. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g., methods to use compression dictionaries for data compression and transmission).

U.S. PGPUB 2002/0078241 issued to **Vidal et al.** on 20 June 2002. The subject matter disclosed therein is pertinent to that of claims 1-24 (e.g., methods to use compression dictionaries for data compression and transmission).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi

Patent Examiner

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September 25, 2006


Leslie Wong

Primary Examiner